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U. S. DEPARTMENT OF AGRICULTURE

MARKETING COSTS and MARGINS for DAIRY PRODUCTS

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service
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MARKETING COSTS AND MARGINS FOR DAIRY PRODUCTS 1/

Average marketing margins for fluid milk sold 1 quart at a time have increased about 14 percent since 1952, which appears in line with increases for major cost items. But the average for all milk sold to household consumers has not increased by as large a percentage, because in more and more markets consumers receive price discounts on milk when they buy more than 1 quart at a time. The farm-retail marketing margins for American processed cheese and butter declined from 1955 to 1956, but the margin for evaporated milk increased slightly.

Fluid Milk

Consumers of fluid milk paid an average price of 23.3 cents for a single quart of milk during 1956 (table 13). 2/ This was an increase of 0.8 cent per quart, or 4 percent over 1955, and 0.3 cent above the previous high annual average of 23.0 cents in 1952. The farm value, or payment received by farmers for an equivalent quantity of milk, was 10.6 cents in 1956, an increase of 0.4 cent over 1955; this reversed the downward trend from 1952 through 1955. The farmer's share of the retail price averaged 45 percent in both 1955 and 1956. The marketing margin increased from 12.3 cents in 1955 to 12.7 cents in 1956, or 3 percent. 3/ Since the base period of 1947-49, retail prices have increased 17 percent and the marketing margin 37 percent. The farm value has ranged from 9.8 cents in 1950 to 11.9 cents in 1952. The 1956 average was the same as the 1947-49 average -- 10.6 cents. The average marketing margin per quart on all fluid milk sales was probably less in 1956 than the 12.7 cents indicated above, since that figure is based primarily on single-quart prices. 4/

1/ Prepared by D. D. MacPherson, Agricultural Economist, and Helen V. Smith, Statistical Assistant, Agr. Market. Serv.

2/ Weighted average of home-delivery and retail-store prices. During the past 4 years, retail-store prices have averaged from 1.0 to 2.0 cents less than home-delivery prices.

3/ Marketing margin is the difference between the price paid by consumers and the payment received by farmers; it includes all marketing costs added to the product after the first sale by the farmers. Principal items are labor, depreciation of buildings and equipment, containers, supplies, utilities, taxes, and profits.

4/ Data are lacking on quantities sold at each of several prices for multiple sales of single-quart containers, for multiple-quart containers, and for different outlets.

Table 13.- Fluid milk: Retail price per quart in urban areas, United States, farm value, marketing margin, and farmer's share of retail prices, average 1947-49, and annual 1950-56 1/

Year	Retail price	Farm value	Farmer's share	Marketing margin	
	Cents	Cents	Percent	Cents	1952=100
1947-49	19.9	10.6	53	9.3	84
1950	19.6	9.8	50	9.8	88
1951	21.9	11.2	51	10.7	96
1952	23.0	11.9	52	11.1	100
1953	22.8	11.1	49	11.7	105
1954	22.4	10.3	46	12.1	109
1955	22.5	10.2	45	12.3	111
1956 2/	23.3	10.6	45	12.7	114

1/ Estimates of the retail price and farm value are computed from average retail and farm prices published by the Bur. of Labor Statistics and Dept. of Agr.

2/ Preliminary.

Quantity Discounts Spreading

The practice of granting discounts on sales of more than 1 quart at a single purchase is spreading. In December 1956, discounts from the single-quart home-delivery price were reported in 98 of the 152 markets reporting, or 65 percent; this was an increase of 3 percentage points over December 1955 when 90 out of 146 reported discounts. Such discounts were based upon: Number of quarts per delivery, per week or per month; two-quart containers; gallon containers; and service charge for first unit of each single delivery. Discounts were granted by stores in 119 out of 152 markets in December 1956, compared with 92 out of 146 markets in December 1955; these covered multiple-quart sales in both single-quart containers and multiple-quart containers. Incomplete information indicates that there are other special discounts of unknown amounts from published prices. It is evident, therefore, that an increasing percentage of customers are purchasing milk at prices less than the single-quart price.

Multiple-Quart Containers

Sales of milk in the gallon jug on a cash-and-carry basis have been one of the features of the shift from sales by home delivery to sales at regular retail food stores and dairy stores. The half-gallon glass bottle, the half-gallon paper carton, and the single-quart attached carton have tended to stimulate sales in multiple-quart volume. Although the single-quart glass container still predominates for home delivery, it is losing ground to the half-gallon and gallon glass container and the half-gallon paper carton. The half-gallon carton is the most important container for store outlets. Gallon containers are widely used and are especially important in Chicago, Wichita, Fort Wayne, and Milwaukee among markets for which data are available.

Table 14.- Proportion of milk sales by principal sizes of containers, 1/
20 Federal order markets, specified periods

Market	Date	Gallon	1/2 gallon	Quart
		Percent	Percent	Percent
Milwaukee, Wis.	Dec. 1955	18.2	66.7	15.1
	July 1956	19.2	66.5	14.3
Wichita, Kans.	Oct. 1955	29.8	47.6	22.6
	Oct. 1956	35.5	46.7	17.8
North Tex.	Jan. 1955	2.4	71.6	26.0
	Sept. 1955	2.6	76.0	21.4
Chicago, Ill.	Apr. 1955	35.4	39.6	25.0
	Apr. 1956	37.3	41.1	21.6
Tulsa, Okla.	Oct. 1955	19.6	47.8	32.6
	Oct. 1956	20.3	52.3	27.4
St. Louis, Mo.	Nov. 1954	2.7	61.5	35.8
	Nov. 1955	3.3	69.1	27.6
Kansas City, Mo.	Oct. 1955	7.6	57.8	34.6
	Oct. 1956	8.7	62.8	28.5
San Antonio, Tex.	Sept. 1955	11.5	50.4	38.1
	Sept. 1956	12.7	57.2	30.1
Fort Wayne, Ind.	Aug. 1955	23.5	40.5	36.0
	Aug. 1956	32.6	37.2	30.2
Oklahoma City, Okla.	Sept. 1955	7.5	50.9	41.6
	Sept. 1956	11.2	56.7	32.1
Neosho Valley, Kans.-Mo.	Oct. 1955	3.4	53.2	43.4
	Oct. 1956	3.9	61.8	34.3
Memphis, Tenn.	July-Sept. 1955	1.4	56.5	42.1
	July-Sept. 1956	4.9	56.6	38.5
Austin, Tex.	Apr. 1955	10.5	50.6	38.9
	Apr. 1956	8.0	52.7	39.3
Minneapolis-St. Paul, Minn.	1954 year	10.8	34.0	55.2
	1955 year	11.3	47.8	40.9
Knoxville, Tenn.	Jan.-June 1955	---	50.9	49.1
	Jan.-June 1956	1.5	52.6	46.8
Louisville, Ky.	June 1955	4.3	37.5	58.2
	Dec. 1955	4.1	47.3	48.6
Central Ariz.	Dec. 1955	5.3	38.6	56.1
	Oct. 1956	6.3	44.6	49.1
Puget Sound area, Wash.	June 1954	3.4	23.3	73.3
	June 1955	3.3	29.2	67.5
Detroit, Mich.	Sept. 1954	---	23.4	76.6
	Sept. 1955	---	28.6	71.4
Toledo, Ohio	Jan.-Mar. 1954	1.8	18.2	80.0
	Jan.-Mar. 1955	1.4	24.1	74.5

1/ Does not include data for pint, 1/3 quart, 1/2 pint, or bulk sales.

Compiled from regular and special reports of the market administrators of the specified markets.

Changes in sizes of containers for milk are related to many other changes in marketing practices. Types of product, sales patterns, inter-market sales, wage levels, market organization and structure, expanded industrial activities, suburban development, consumer buying habits, improved quality of milk, and the previously mentioned quantity discounts have all been contributing factors.

In 19 of the 20 markets for which data are available, during a period of 1 year, the proportion of total milk sales made in quart containers declined; reductions ranged from less than 1 to more than 14 percentage points (table 14). The simple average decline for all 20 markets was about 6 percentage points. As a proportion of total, sales of milk in half gallons increased from 46 percent to 50.5 percent and in gallons from 10 percent to 11.4 percent.

Retail and Wholesale Sales

The shift in container sizes reflects changes in the proportion of milk that distributors deliver to homes and to retail stores and other wholesale buyers. Most quart containers are used for home delivery retail sales, but most multiple-quart units are for wholesale sales to retail stores. In the six cities (table 15), for which detailed data are available, the proportion of total fluid milk sales sold at retail declined about 3 percentage points a year.

Table 15.- Dealers' sales of fluid milk by type of buyer, market, and date

Market	Date	Stores, restaurants, etc.	Home delivery
		Percent	Percent
Kansas City, Mo.	June 1954	63.8	36.2
	June 1956	69.8	30.2
Wichita, Kans.	Oct. 1955	61.0	39.0
	Oct. 1956	64.3	35.7
St. Louis, Mo.	Nov. 1954	57.4	42.6
	Nov. 1955	60.8	39.2
Minneapolis-St. Paul, Minn.	Nov. 1954	56.8	43.2
	Nov. 1955	57.2	42.8
Puget Sound area, Wash.	Nov. 1954	49.0	51.0
	Nov. 1955	52.0	48.0
Toledo, Ohio	Jan.-Mar. 1954	40.0	60.0
	Jan.-Mar. 1955	43.3	56.7

Compiled from regular and special reports published by the administrators of the respective markets.

Operating Costs of Dairy Firms

Major cost factors are increasing in the fluid milk industry. Management is continually faced with the problem of offsetting these increases by adopting improved processing and marketing practices. The use of larger size containers and the shift toward a larger proportion of wholesale sales are among the changes that have been made in the last 5 years to offset increasing rates on many cost items. Installation of materials handling equipment and new and better plants and equipment have helped hold down unit costs. Innovations which have been adopted in the field of processing are expected to reduce costs.

These changes in dairy plant operation, along with a sharp decline in net margin per unit of product, have resulted in only a 6 percent increase in the gross margin per unit for a group of independent milk plants, much less than rate increases of major cost components. From 1952 through 1956, average hourly earnings increased by 20 percent (table 16), yet their labor costs per unit of product, increased only 7 percent (table 17). This was particularly significant, since labor costs account for nearly 50 percent of the costs of assembling, processing, and distributing milk. Cost of containers has risen in each of the 6 years but since they are purchased as a finished product, operating economies cannot materially affect such costs. This is reflected in the 18 percent increase per unit for containers.

Table 16.- Trends in major cost items in dairy products industry, 1952-56

(1952 = 100)

Year	Average hourly earnings, dairy products industries 1/	Fuel, power, and lighting material	Machinery and motive products	Container board	Glass containers
1952	100	100	100	100	100
1953	107	103	101	101	108
1954	111	101	103	104	113
1955	115	101	106	104	114
1956 2/	120	104	113	107	120

1/ Computed from average earnings per hour.
2/ Preliminary.

Table 17.- Trends in operating expenses per unit of product for a selected group of milk dealers in the East, Midwest, and South, January-June 1952-56

(1952 = 100)

Expense	January-June				
	1952	1953	1954	1955	1956
Wages, salaries, and commissions ..	100	100	103	107	107
Containers	100	102	107	113	118
Supplies	100	100	120	113	93
Repairs, rent, and depreciation ...	100	102	116	127	127
Other expenses	100	102	110	120	113
Net margin before income taxes	100	106	77	74	74
Gross margin	100	101	104	108	106
Number of firms	42	48	74	86	80

The increase of 27 percent in repairs, rent, and depreciation per unit of product reflects both increasing costs of such items and the increased use of new plant and equipment. The cost of operating supplies and services (such as utilities) have increased only slightly since 1952; operating efficiencies have reduced the unit cost of these items during the past 3 years. Other expenses, made up primarily of payroll taxes, property taxes, and advertising and promotional programs, have increased about 13 percent. Net profits (before income taxes) have decreased 26 percent on a per unit basis (table 17).

Manufactured Dairy Products

American Processed Cheese

The annual average farm-retail price spread or marketing margin for American process cheese for the United States as a whole has remained relatively constant for the past 4 years (table 18). The farm-retail price spread increased from 23.7 cents per pound in 1950 to 29.9 cents in 1953. Since 1953, it has varied within a range of 2.1 cents, reaching a high of 30.6 cents in the second quarter of 1955, and dropping to a low of 28.5 cents in the fourth quarter of 1956. Changes in the average retail price have closely paralleled changes in the farm value of an equivalent quantity of milk. Farm value as a percentage of retail price declined from a high of 59 percent in 1952 to 51 percent in 1953. Since that date, partly as a result of price-support influence, it has remained fairly constant, with 1956 showing an increase of 2 percentage points over the 7-year low of 48 percent in 1954 and 1955.

Table 18.- Retail and wholesale prices of principal manufactured dairy products, farm values, and marketing margins, 1950-56

Year and quarter	American processed cheese: United States average retail price per pound	Processed loaf, wholesale price per pound, Chicago	Farm value of equivalent quantity of milk	Farm-retail price spread	Wholesale-retail price spread	Farm-wholesale price spread	Farm value as a percentage of retail price
	Cents	Cents	Cents	Cents	Cents	Cents	Percent
1950	51.1	35.6	27.4	23.7	15.5	8.2	54
1951	58.3	42.8	33.7	24.6	15.5	9.1	58
1952	59.9	44.0	35.2	24.7	15.9	8.8	59
1953	59.8	40.7	30.7	29.1	19.1	10.0	51
1954	57.6	36.5	27.7	29.9	21.1	8.8	48
1955	57.7	36.4	27.7	30.0	21.3	8.7	48
1956 1/	57.2	36.3	28.5	28.7	20.9	7.8	50
1955							
Jan.-Mar.	57.5	36.7	28.0	29.5	20.8	8.7	49
Apr.-June	57.7	36.1	27.1	30.6	21.6	9.0	47
July-Sept.	57.8	36.0	27.3	30.5	21.8	8.7	47
Oct.-Dec.	57.7	36.9	28.2	29.5	20.8	8.7	49
1956							
Jan.-Mar.	57.0	35.8	28.4	28.6	21.2	7.4	50
Apr.-June	57.1	36.3	28.4	28.7	20.8	7.9	50
July-Sept.	57.3	36.5	28.4	28.9	20.8	8.1	50
Oct.-Dec. 1/	57.2	36.5	28.7	28.5	20.7	7.8	50

Year and quarter	Creamery butter: United States average retail price per pound	Wholesale price per pound, 92 score, Chicago	Farm value of equivalent quantity of milk and cream	Farm-retail price spread	Wholesale-retail price spread	Farm-wholesale price spread	Farm value as a percentage of retail price
1950	72.5	61.7	50.0	22.5	10.8	11.7	69
1951	81.4	69.2	57.7	23.7	12.2	11.5	71
1952	85.0	72.2	59.9	25.1	12.8	12.3	70
1953	79.0	65.9	53.2	25.8	13.1	12.7	67
1954	72.4	59.7	47.0	25.4	12.7	12.7	65
1955	70.9	57.4	45.8	25.1	13.5	11.6	65
1956 1/	72.1	59.2	47.2	24.9	12.9	12.0	65
1955							
Jan.-Mar.	71.3	57.4	46.3	25.0	13.9	11.1	65
Apr.-June	70.5	57.2	45.5	25.0	13.3	11.7	65
July-Sept.	70.6	57.5	45.2	25.4	13.1	12.3	64
Oct.-Dec.	71.1	57.7	46.2	24.9	13.4	11.5	65
1956							
Jan.-Mar.	70.8	57.5	46.2	24.6	13.3	11.3	65
Apr.-June	71.4	58.9	46.9	24.5	12.5	12.0	66
July-Sept.	72.1	59.6	47.2	24.9	12.5	12.4	65
Oct.-Dec. 1/	74.1	60.9	48.6	25.5	13.2	12.3	66

Year and quarter	Evaporated milk: United States average retail price per 14-1/2 ounce can	Wholesale price per 14-1/2 ounce can 2/	Farm value of equivalent quantity of milk	Farm-retail price spread	Wholesale-retail price spread	Farm-wholesale price spread	Farm value as a percentage of retail price
1950	12.6	10.9	6.0	6.6	1.7	4.9	48
1951	14.4	12.7	7.4	7.0	1.7	5.3	51
1952	14.9	13.2	7.9	7.0	1.7	5.3	53
1953	14.6	12.3	6.6	8.0	2.3	5.7	45
1954	13.9	11.6	6.0	7.9	2.3	5.6	43
1955	13.7	11.6	6.0	7.7	2.1	5.6	44
1956 1/	14.0	12.1	6.2	7.8	1.9	5.9	44
1955							
Jan.-Mar.	13.7	11.6	6.2	7.5	2.1	5.4	45
Apr.-June	13.7	11.6	5.9	7.8	2.1	5.7	43
July-Sept.	13.7	11.6	6.0	7.7	2.1	5.6	44
Oct.-Dec.	13.7	11.8	6.1	7.6	1.9	5.7	45
1956							
Jan.-Mar.	13.8	11.9	6.3	7.5	1.9	5.6	46
Apr.-June	13.9	12.0	6.2	7.7	1.9	5.8	45
July-Sept.	14.2	12.4	6.1	8.1	1.8	6.3	43
Oct.-Dec. 1/	14.3	12.4	6.4	7.9	1.9	6.0	45

1/ Preliminary.
2/ United States average manufacturers' selling price per case converted to price per 14-1/2 oz. can.

Butter

The annual average marketing margin for creamery butter declined each year during the 4-year period, 1953-56, from a high of 25.8 cents per pound in 1953 to a low of 24.9 cents in 1956 (table 18). Both the farm-wholesale price spread and the wholesale-retail price spread were smaller in 1956 than in 1953. Changes in average retail prices have followed very closely changes in the farm value during the last 3 years; farm value as a percentage of retail price, on an annual basis, has remained constant at 65 percent.

Evaporated Milk

The annual average marketing margin for evaporated milk varied from a high of 8.0 cents per 14-1/2 ounce can to a low of 7.7 cents during the 4-year period 1953-56. The increase of 1.4 cents in retail price from 1950 to 1956 resulted mostly from a rise of 1.0 cents in the farm-wholesale price spread; farm value of an equivalent quantity of milk rose 0.2 cent and wholesale-retail price spread also rose 0.2 cent. The farm value as a percentage of retail price rose from 48 percent in 1950 to 53 percent in 1952, dropped sharply to 43 percent in 1954, and rose to 44 in 1955 and 1956.